

REMARKS

Claims 1-4, 6, 8 and 10 are pending.

The Examiner's action dated December 3, 2002, has been received, and its contents carefully noted.

The provisional double patenting rejection presented in section 3 of the action is noted. Since this is a provisional rejection, it is understood that this is simply advisory, and that a formal response is not required. It is noted, however, that claims 1-12 and 14-19 of application No. 09/500,824 have been cancelled.

The objection to the abstract, presented in section 4 of action, is traversed. It is understood that the current rule requires that the abstract be limited to 150 words. However, the effective date of this requirement was subsequent to the filing date of this application and, to the knowledge of the undersigned, that requirement was not made retroactive.

In response to the formal rejection presented in section 7 of the action, claim 1 has been amended to provide proper antecedent basis for "second reception link", and claim 2 has been amended to refer to a "faulty" channel, instead of a "failing channel", and it is submitted that antecedent basis for "faulty channel" is present in claim 2. Claim 7 has been cancelled.

Accordingly, it is requested that the formal rejections presented in sections 8-11 of the action be reconsidered and withdrawn.

In response to the drawing objection presented in section 12 of the action, those claims that refer to a "wave division multiplexer" have been cancelled, and it is therefore requested that the requirement to illustrate that feature be withdrawn.

The rejection of claims 1, 2, 6 and 8 as unpatentable over Denkin is respectfully traversed. It is believed that, for reasons to be presented below, the claims, as now amended, define subject matter that is not disclosed in or suggested by the applied reference.

The invention described in the Denkin patent requires that:

"The operational procedure that is followed to detect a Loss of Signal on an incoming, active communication path (i.e., either the service line or protection line) includes supplying a signal received from the active communication path to an interference filter, e.g., a Mach-Zehnder interferometer, to generate a main signal and a complementary signal. The sum and difference of the main and complementary signals are then generated and both are supplied to a summing circuit and difference circuit. If either the sum or difference of those signals is below a respective threshold for a predetermined period of time, ... then a LOS is declared, thereby invoking the protection switching process." Col. 2, lines 12-25.

This procedure is more complicated than determining whether a total of the energy received exceeds a pre-defined threshold, and does not allow for all of the operational options provided by the present invention. Furthermore, the method disclosed by Denkin involves switching to the protection line upon detection of LOS occurring in the main transmission line. In clear contrast, evaluation of the energy received prior to determining if a switching is required, as provided by the present invention, enables the user to overcome a further problem.

Specifically, we can consider, for example, a case in which one out of all of the operating transmitters along an

optical link has failed, while the others continued to function properly. In such a case, even if a LOS is detected, it is still highly desired that the remaining operative channels continue to operate without interruption and not be switched to the protection channel.

According to the present invention, once it has been determined that a total of the energy received still exceeds the pre-defined threshold, there will be no need to switch all of the channels to the protection path.

Thus, the present invention, as defined in the pending claims causes only traffic that would be transmitted along the faulty channel to be diverted to the protection channel, without affecting the live traffic transmitted along the remaining channels.

Each of the rejected claims that remains pending distinguishes patentably over this reference by recitations that are not disclosed in or suggested by the applied reference, of features corresponding to the novel features discussed above.

The rejection of claims 1-10 as unpatentable over Takeshita is also respectfully traversed.

In this reference, the method of switching to the protection path is different from that defined in the claims of the present application.

According to the disclosure contained in this reference:

"the optical wave network system monitors a trouble or quality deterioration of physical path connection and transfers a trouble alarm through the optical network elements for every wavelength path or virtual wavelength path without depending on a transmission speed ... and has a high speed network trouble recovery function for

physically conducting protection by quickly recovering the failure at high speed by means of the optical network elements from the wavelength paths or virtual wavelength paths of a using system to predetermined exclusive wavelength paths or virtual wavelength paths of a spare system, or for conducting protection by retrieving wavelength paths or virtual wavelength paths of a spare system that is out of use and is shared in a network..."

Col. 3, lines 38-53

Furthermore, it is no less important that the method disclosed in this references requires a longer period of time from detection through the transfer of a trouble alarm via the optical network elements until operation is actually resumed along the protection link.

In contrast, the solution provided by the present invention eliminates the need for notification, e.g. transmitting an alarm, and thereby eliminates the problems associated with prior art methods that require such notification. According to the present invention, the determination as to whether to switch to the protection link is taken at each end of the link independently of the determination made at the other end of the link and is made based on the total energy detected at that specific end of the link, independently of any detection at the other end.

The major advantages of the method according to the invention are that there is no need to notify the fault detection at the other side so that no problem can arise due to failure to receive such notification, and switching to the protecting link is carried out very quickly.

Features distinguishing the invention over this reference are now clearly defined in the pending claims.

Accordingly, it is requested that all of the objections and rejections of record be reconsidered and withdrawn, that claims 1-4, 6, 8 and 1-10 be allowed and that the application be found in allowable condition.

REQUEST FOR INITIALED PTO 1449S


It is noted that IDSs were filed on February 10, 2000 and May 21, 2001. To date, initialed copies of the PTO 1449 filed therewith have not been received. It is asked that the Examiner provide such copies.

If the above amendment should not now place the application in condition for allowance, the Examiner is invited to call undersigned counsel to resolve any remaining issues.

Respectfully submitted,

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